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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/656,808	09/07/2000	Ian R. McLean	60,426-047	1859

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EXAMINER	
SAN MARTIN, EDGARDO	
ART UNIT	**PAPER NUMBER**
2837	

DATE MAILED: 05/27/2003 16

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/656,808	MCLEAN, IAN R.	
	Examiner	Art Unit	
	Edgardo San Martin	2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 April 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,4-12 and 14-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2,4-12 and 14-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 2, 4 – 12 and 14 - 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geddes (US 5,229,556) in view of Brackett et al. (US 5,377,629).

With respect to Claim 8, Geddes teaches an induction noise attenuation system for a combustion engine (Col.3, Lines 53 – 66) comprising a portion of an air induction system defining a passageway (Fig.1, Item 14) carrying a sound wave, a Helmholtz resonator (Fig.1, Item 58) having a chamber (Fig.1, Item 34) at least partially defining a cavity and a neck (Fig.1, Item 41) in the chamber fluidly connecting the portion of the air induction system and the cavity, the chamber and the neck producing a passive response to the sound wave, an active resonator (Fig.1,Item 28) disposed within the chamber; and a driver (Fig.1, Item 60) connected to the active resonator producing a signal for driving the active resonator and producing a forced response for supplementing the passive response (Col.4, Lines 25 – 39), but fails to explicitly disclose wherein the passageway is arranged between an intake manifold and a throttle body.

On the other hand, Brackett et al. teach a noise attenuation system a portion of an air induction system defining a passageway that is arranged between an intake manifold (Fig.1, Item 18) and a throttle body (Fig.1, Item 16).

It would have been obvious to a person with ordinary skill in the art to place the Geddes noise attenuation system at the Brackett et al. noise attenuator position because by positioning the noise attenuation system between the manifold and a throttle body at part throttle and full throttle conditions, the torque is improved.

With respect to Claim 2, Geddes teaches wherein the neck (Fig.1, Item 41) is a tubular structure extending from the chamber (Col.4, Lines 50+).

With respect to Claims 4 and 14, Geddes teaches wherein the active resonator is a loudspeaker (Fig.1, Item 20), and wherein the loudspeaker is a woofer (Col.2, Lines 1 – 14).

With respect to Claim 5, Geddes teaches wherein the chamber (Fig.1, Item 34) includes a flange (Fig.1, Item 32) with the loudspeaker (Fig.1, Item 28) supported thereon, and the loudspeaker having a diaphragm (Fig.1, Item 37) disposed within an opening in the flange for producing the forced response.

With respect to Claim 6, Geddes teaches wherein the flange (Fig.1, Item 32) includes at least one pressure equalization port (Fig.1, Item 39) there through in fluid communication with the cavity (Fig.1, Item 34).

With respect to Claim 7, Geddes teaches wherein the flange (Fig.1, Item 32) is arranged opposite the neck (Fig.1, Item 41).

With respect to Claim 9, Brackett et al. teach the driver including a signal source that detects a speed of the combustion engine for synchronizing the forced response relative to the speed (Fig.1; Col. 2, Lines 30 – 36).

With respect to Claim 10, Brackett et al. teach wherein the signal source is engine RPM (Fig.6).

With respect to Claim 11, Geddes teaches wherein the driver includes a phase compensator for synchronizing the forced response approximately 180° out of phase with the sound wave (Col.1, Lines 44 – 55).

With respect to Claim 12, Geddes teaches wherein the driver (Fig.1, Item 60) includes an amplifier (Fig.1, Item 72) for amplifying a signal from the signal source (Fig.1, Item 12) (Col.4, Lines 25 – 39).

With respect to Claim 15, Geddes teaches a method of attenuating noise in an induction system comprising,

a) sensing an engine noise signal;

b) producing a phase compensated engine noise signal;

c) driving a loudspeaker with the phase compensated engine noise signal; and

d) propagating a sound wave with the loudspeaker to attenuate the noise in the induction system. (Col.3, Line 67 – Col.5, Line 64)

However, Geddes fails to disclose the engine signal to be an engine speed signal.

Nevertheless, Brackett teach a control system method for an internal combustion engine resonator in which the speed of the engine is determined and a signal is produced in order to control an actuator that tunes the resonator to attenuate the noise made by the engine (Fig.1; Col.2, Lines 7 – 54).

It would have been obvious to a person with ordinary skill in the art to employ the Geddes noise attenuation system as the Brackett et al. noise attenuator because the Brackett et al. design relates the produced torque with the engine speed, and it was found that at part throttle conditions, the torque is improved with lower loss in wide open throttle torque. In addition, the Geddes design would be more efficient to attenuate the produced sound because it would produce a destructive wave in direct relation with the produced sound.

With respect to Claim 16, Geddes teaches further including the step of e) amplifying the engine noise signal (Fig.1, Item 12) (Col.4, Lines 25 – 39).

With respect to Claim 17, Geddes teaches further including the step of f) propagating a passive sound wave with a Helmholtz resonator, wherein step d) supplements the passive sound wave (Fig.1, Item 20; Col.4, Lines 18 – 39).

With respect to Claims 18 – 20, Geddes teaches wherein step b) includes determining a loudspeaker response, wherein step b) includes determining a Helmholtz

resonator cavity response, and wherein step b) includes determining a Helmholtz resonator neck response (Fig.1, Item 24; Col.4, Lines 25 – 39).

Response to Arguments

2. Applicant's arguments filed on April 17, 2003 have been fully considered but they are not persuasive. The Examiner considers that the patents to Geddes and Brackett et al. teach the limitations described by the claimed subject matter, as discussed above. In response to applicant's argument that Brackett et al. is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the Examiner considers that a person with ordinary skill in the art would conclude by reading the specification of the cited patents that both reference are directed to solve the same problem, which is to attenuate noise in an exhaust system. Furthermore, the teachings described by Brackett et al. were used to show that it is known in the art to place a sound attenuation device between an intake manifold and a throttle body, as discussed above.

In response to Applicant's argument that there is no suggestion to combine the references, the Examiner recognizes that references cannot be arbitrarily combined and

that there must be some reason why one skilled in the art would be motivated to make the proposed combination of primary and secondary references. In re Nomiya, 184 USPQ 607 (CCPA 1975). However, there is no requirement that a motivation to make the modification be expressly articulated. The test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. In re McLaughlin, 170 USPQ 209 (CCPA 1971) references are evaluated by what they suggest to one versed in the art, rather than by their specific disclosures.
In re Bozek, 163 USPQ 545 (CCPA 1969). In this case, the patent to Brackett et al. teaches on Col.3, Lines 60+ that by placing the noise attenuation system between the manifold and a throttle body the torque is improved with lower loss. The Examiner considers that statement to be enough motivation to combine the teachings of the cited references.

Conclusion

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edgardo San Martin whose telephone number is (703)308-1050. The examiner can normally be reached on 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi can be reached on (703)308-3370. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3431 for regular communications and (703)305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

Edgardo San Martín
Patent Examiner
Art Unit 2837
Class 181
May 20, 2003

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